

### Patent Claims

1. Electro-optical light modulation element comprising
- a substrate or a plurality of substrates,
  - an electrode arrangement,
  - at least one element or a plurality of elements for polarisation of the light and
  - a modulation medium,
- characterised in that
- the light modulation element is operated at a temperature at which the modulation medium is in the optically isotropic phase in the unaddressed state, and in that
  - the electrode arrangement can generate an electric field having a significant component parallel to the surface of the mesogenic modulation medium, and in that
  - the light modulation element includes a solid dielectric layer between the electrode arrangement and the mesogenic modulation layer.
2. Light modulation element according to Claim 1, characterised in that
- the solid dielectric layer consists of  $\text{SiO}_2$ ,  $\text{SiO}_x$ , silicon nitride or silicon carbide or the like.
3. Light modulation element according to at least one of Claims 1 and 2, characterised in that
- the solid dielectric layer covers at least part of the electrode structure.
4. Light modulation element according to Claim 3, characterised in that
- the solid dielectric layer essentially completely covers the corners and/or edges of the electrode structure.
5. Light modulation element according to Claim 3, characterised in that

- the solid dielectric layer essentially completely covers the electrode structure.

5        6. Light modulation element according to at least one of Claims 3 to 5, characterised in that

- the solid dielectric layer the electrode structure has a thickness of 90% or less of the layer thickness of the mesogenic modulation layer.
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7. Light modulation element according to at least one of Claims 1 to 6, characterised in that

- the modulation medium is in a blue phase at the operating temperature of the light modulation element.
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8. Electro-optical display containing one or more light modulation elements according to at least one of Claims 1 to 7.

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9. Electro-optical display according to Claim 8, characterised in that the display is addressed by means of an active matrix.

10. Electro-optical display system containing one or more electro-optical displays according to at least one of Claims 8 and 9.

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11. Electro-optical display system according to Claim 10, characterised in that it is used or can be used as a television screen, as a computer monitor or as both.

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12. Use of a light modulation element according to at least one of Claims 1 to 7 for the display of information.

13. Use of a light modulation element according to at least one of Claims 1 to 7 in an electro-optical display.

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14. Use of an electro-optical display according to at least one of Claims 8 and 9 in an electro-optical display system.
- 5 15. Use of an electro-optical display system according to at least one of Claims 10 and 11 for the display of video signals or digital signals.

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